ABSTRACT

An object of the invention is to provide a method of controlling an optical wavelength division multiplexing transmission apparatus which achieves stable wavelength division multiplexing optical transmission by switching a control mode of an optical amplification section in accordance with an input state of optical signals of various wavelengths. Accordingly, the method of the invention involves, upon startup of the optical wavelength division multiplexing transmission apparatus, initial setting of information such as the wavelengths being used and the number of wavelengths being used, setting the amount of optical attenuation for each wavelength to a maximum value, and setting an optical amplification unit to ALC. Then, upon input of an optical signal corresponding to the wavelengths being used, the amount of optical attenuation corresponding to the input optical wavelength is controlled so that the level of the input optical signals analyzed by the spectral analysis unit are approximately constant, and moreover so that the input optical level per single wavelength input into the optical amplification unit is of a level which corresponds with the number of wavelengths being used, and then the apparatus shifts to normal operating conditions. Next, when the number of wavelengths being input varies, the optical amplifier is switched to AGC, and after the power level of the optical signal of each wavelength is adjusted, the optical amplifier is switched to ALC again.

ABSTRACT

A method of controlling an optical wavelength division multiplexing transmission apparatus achieves stable wavelength division multiplexing optical transmission by switching a control mode of an optical amplification section in accordance with an input state of optical signals of various wavelengths. Accordingly, the method involves, upon startup of the optical wavelength division multiplexing transmission apparatus, initial setting of information such as the wavelengths being used and the number of wavelengths being used, setting the amount of optical attenuation for each wavelength to a maximum value, and setting an optical amplification unit to ALC. Then, upon input of an optical signal corresponding to the wavelengths being used, the amount of optical attenuation corresponding to the input optical wavelength is controlled so that the levels of the input optical signals analyzed by the spectral analysis unit are approximately constant ; and moreover, so that the input optical level per single wavelength input into the optical amplification unit is of a level which corresponds with the number of wavelengths being used. Then the apparatus shifts to normal operating conditions. Next, when the number of wavelengths being input varies, the optical amplifier is switched to AGC, and after the power level of the optical signal of each wavelength is adjusted, the optical amplifier is switched to ALC again.